obtaining nearby relationship data for an element in the structure; the nearby relationship data indicating information about nearby node-link relationships; and

based on the nearby relationship data, obtaining layout data indicating the element's position relative to a parent in the space with negative curvature.

2. A method as in claim 1 in which the space with negative curvature is a hyperbolic plane.

3. A method as in claim 1 in which the element and the parent are nodes and in which the layout data include position displacement data indicating a distance between the parent's position and the element's position and angle displacement data indicating an angular difference between an incoming link to the parent and an outgoing link from the parent to the element.

4. A method as in claim 3 in which the layout data include only the position displacement data and the angle displacement data.

5. A method as in claim 1 in which the act of obtaining the nearby relationship data comprises:

for each of a set of children of the parent, obtaining a count of grandchildren; the element being one of the set of children.

6. A method as in claim 5 in which the act of obtaining layout data comprising:

using the counts of grandchildren to obtain, for each of the set of children, a radius and an angle; and

using the radii and angles for the set of children to obtain a position displacement and an angle displacement between the parent and the element.

7. A method as in claim 6 in which the element has a previous angle displacement; the method further comprising comparing the obtained angle displacement with the previous angle displacement to determine whether to lay out children of the element.

8. A method as in claim 1 in which the nearby node-link relationships include only relationships among the parent and the parent's children and grandchildren.

9. A method as in claim 1 in which the method is performed in each of a series of iterations; each iteration comprising: identifying elements to be laid out in the iteration; and

performing the acts of obtaining nearby relationship data and obtaining layout data for each of the identified elements.

10. A method as in claim 9 in which the series of iterations is performed in response to an event requesting an insertion or deletion, the identified elements including elements affected by the insertion or deletion.

11. A method as in claim 10, further comprising, before the series of iterations:

obtaining a weight for each iteration;

each iteration comprising using the weight in performing the act of obtaining layout data.

12. A method as in claim 9 in which the identified elements include elements added to the structure during a preceding iteration.

13. A system comprising:

a processor for laying out a node-link structure in a space with negative curvature; the processor, in laying out the node-link structure:

obtaining nearby relationship data for an element in the structure; the nearby relationship data indicating information about nearby node-link relationships; and

based on the nearby relationship data, obtaining layout data indicating the element's position relative to a parent in the space with negative curvature.

14. An article of manufacture for use in a system that includes: a storage medium access device; and

a processor connected for receiving data accessed on a storage medium by the storage medium access device; the article of manufacture comprising:

a storage medium; and

instruction data stored by the storage medium; the instruction data indicating instructions the processor can execute; the processor, in executing the instructions, laying out a node-link structure in a space with negative curvature; the processor, in laying out the node-link structure:

obtaining nearby relationship data for an element in the structure; the nearby relationship data indicating information about nearby node-link relationships; and

based on the nearby relationship data, obtaining layout data indicating the element's position relative to a parent in the space with negative curvature.

15. A method of transferring data between first and second machines over a network, the second machine including memory and a processor connected for accessing the memory; the memory being for storing instruction data; the method comprising:

establishing a connection between the first and second machines over the network; and

operating the first and second machines to transfer instruction data from the first machine to the memory of the second machine; the instruction data indicating instructions the processor can execute; the processor, in executing the instructions, laying out a node-link structure in a space with negative curvature; the processor, in laying out the node-link structure:

obtaining nearby relationship data for an element in the structure; the nearby relationship data indicating information about nearby node-link relationships; and

based on the nearby relationship data, obtaining layout data indicating the element's position relative to a parent in the space with negative curvature.

16. (New) A method according to claim 1, wherein said step of obtaining layout data comprises the step of calculating said layout data.

17. (New) A method of laying out a node-link structure in a space with negative curvature; the method comprising:

obtaining nearby relationship data for a subject element in the structure, the nearby relationship data indicating information about nearby node-link relationships, the nearby relationship data excluding relationships with at least one element of the node-link structure; and

based on only the nearby relationship data, obtaining layout data identifying the subject element's position in the space with negative curvature.

18. (New) A method as in claim 17 in which the space with negative curvature is a hyperbolic plane.

19. (New) A method as in claim 17 in which the subject element and the parent are nodes and in which the layout data include position displacement data indicating a distance between the parent's position and the subject element's position and angle displacement data indicating an angular difference between an incoming link to the parent and an outgoing link from the parent to the subject element.

20. (New) A method as in claim 19 in which the layout data include only the position displacement data and the angle displacement data.

21. (New) A method as in claim 17 in which the act of obtaining the nearby relationship data comprises:

for each of a set of children of the parent, obtaining a count of grandchildren; the subject element being one of the set of children.

22. (New) A method as in claim 21 in which the act of obtaining layout data comprising:

using the counts of grandchildren to obtain, for each of the set of children, a radius and an angle; and

using the radii and angles for the set of children to obtain a position displacement and an angle displacement between the parent and the subject element.

23. (New) A method as in claim 22 in which the subject element has a previous angle displacement; the method further comprising comparing the obtained angle displacement with the previous angle displacement to determine whether to lay out children of the subject element.

24. (New) A method as in claim 17 in which the nearby node-link relationships include only relationships among the parent and the parent's children and grandchildren.

25. (New) A method according to claim 17, wherein said step of obtaining layout data comprises the step of calculating said layout data.

26. (New) A system comprising:

a processor for laying out a node-link structure in a space with negative curvature; the processor, in laying out the node-link structure:

obtaining nearby relationship data for a subject element in the structure, the nearby relationship data indicating information about nearby node-link relationships, the nearby relationship data excluding relationships with at least one element of the node-link structure; and

based on only the nearby relationship data, obtaining layout data identifying the subject element's position in the space with negative curvature.

27. (New) An article of manufacture for use in a system that includes: a storage medium access device; and

a processor connected for receiving data accessed on a storage medium by the storage medium access device; the article of manufacture comprising:

a storage medium; and

instruction data stored by the storage medium; the instruction data indicating instructions the processor can execute; the processor, in executing the instructions, laying out a node-link structure in a space with negative curvature; the processor, in laying out the node-link structure: